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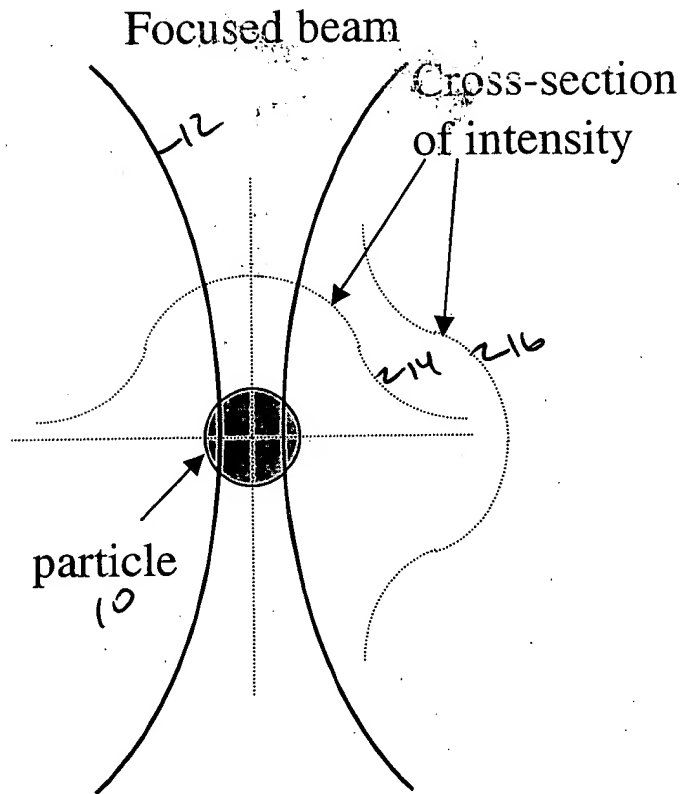
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$$F_{\nabla} = 2\pi \cdot r^3 \frac{\sqrt{\epsilon_B}}{c} \left(\frac{\epsilon - \epsilon_B}{\epsilon + 2\epsilon_B} \right) (\nabla \cdot I)$$

F_{∇} = optical force on particle towards higher intensity

r = radius of particle

ϵ_B = dielectric constant of background medium

ϵ = dielectric constant of particle

I = light intensity (W/cm^2)

∇ = spatial derivative

Fig. 1

Fig. 2

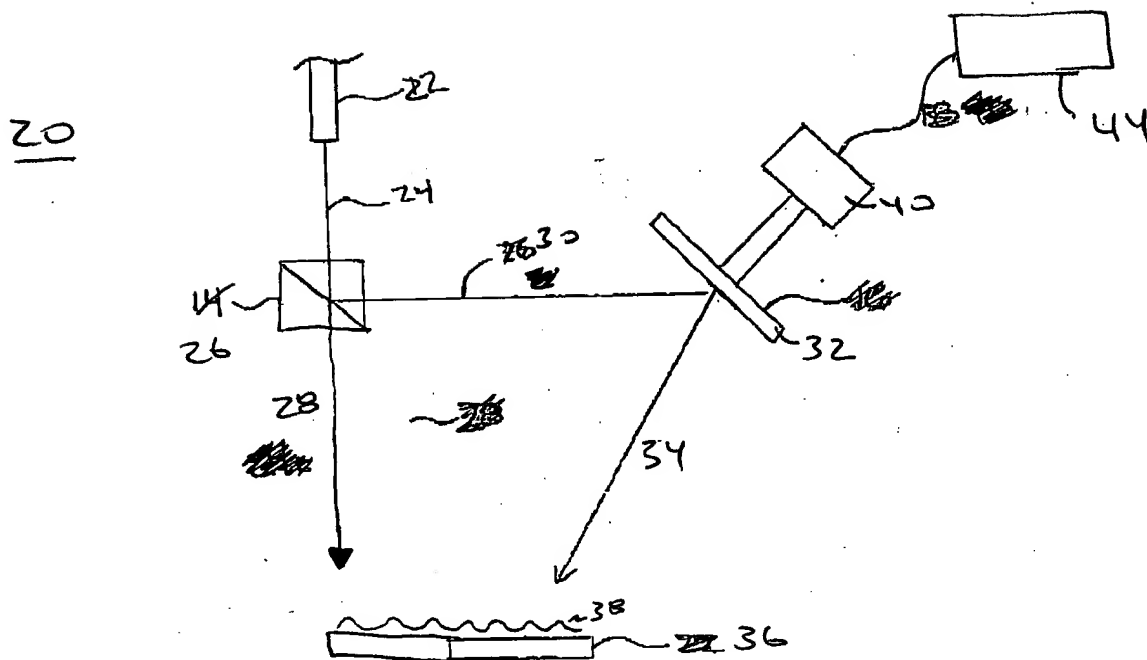


Fig. 3

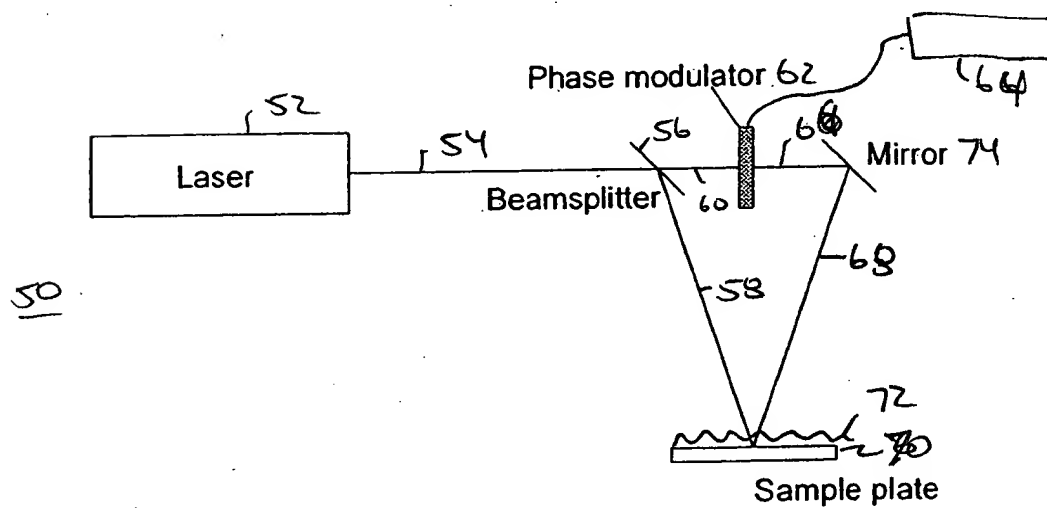
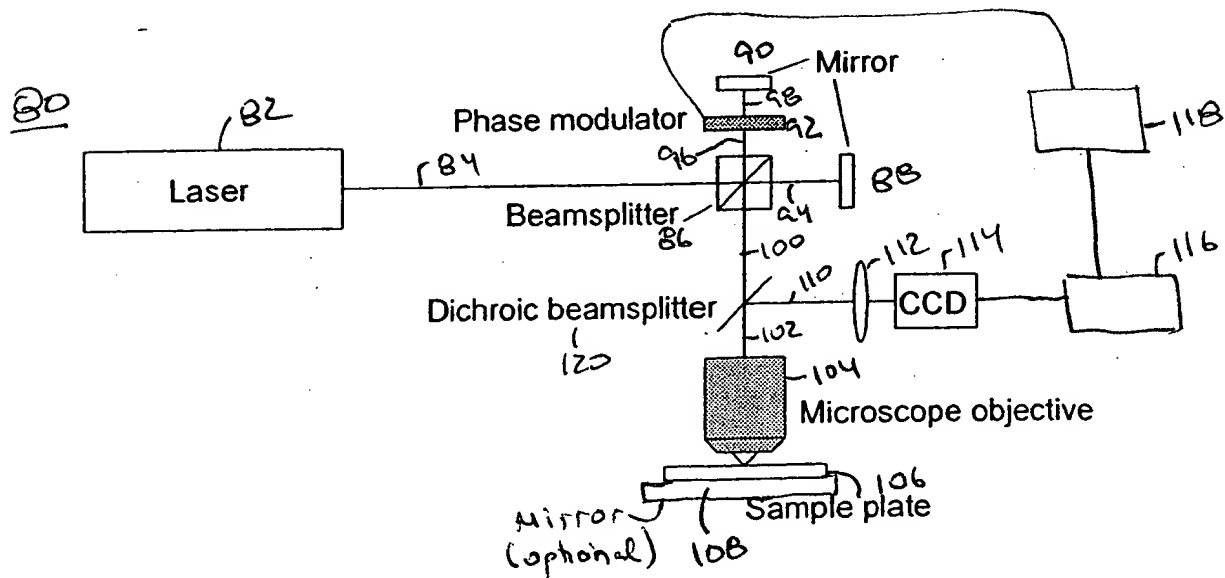


Fig. 4



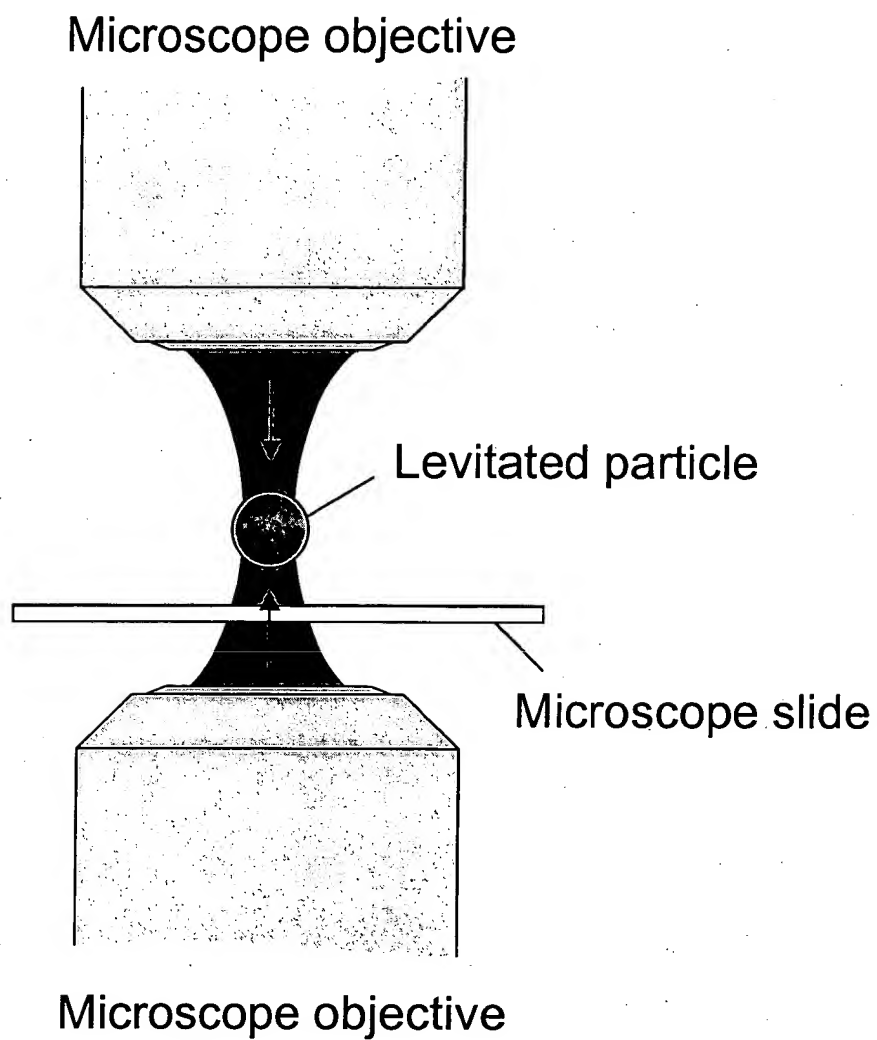


Fig. 4A

120

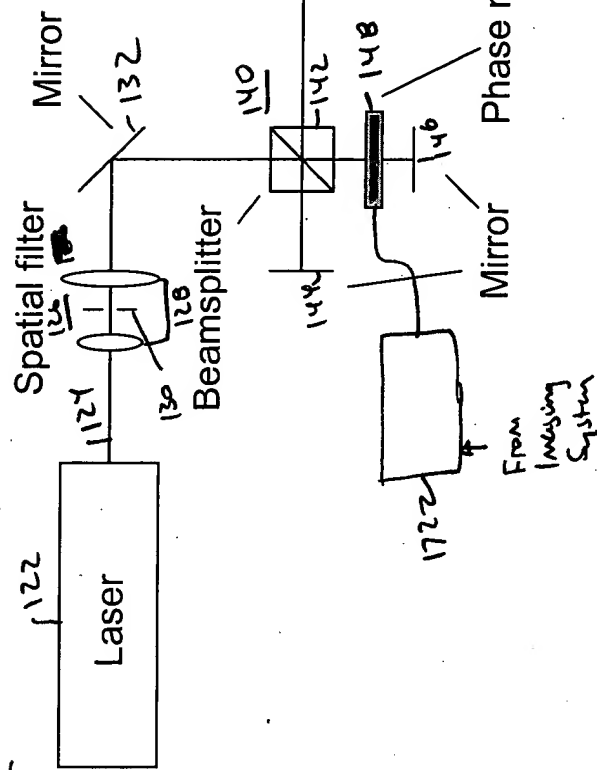
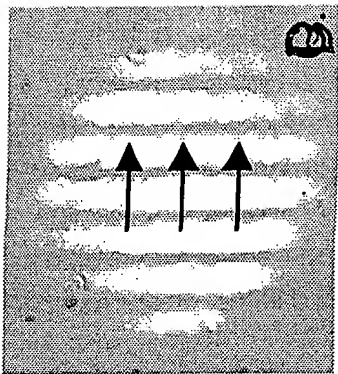
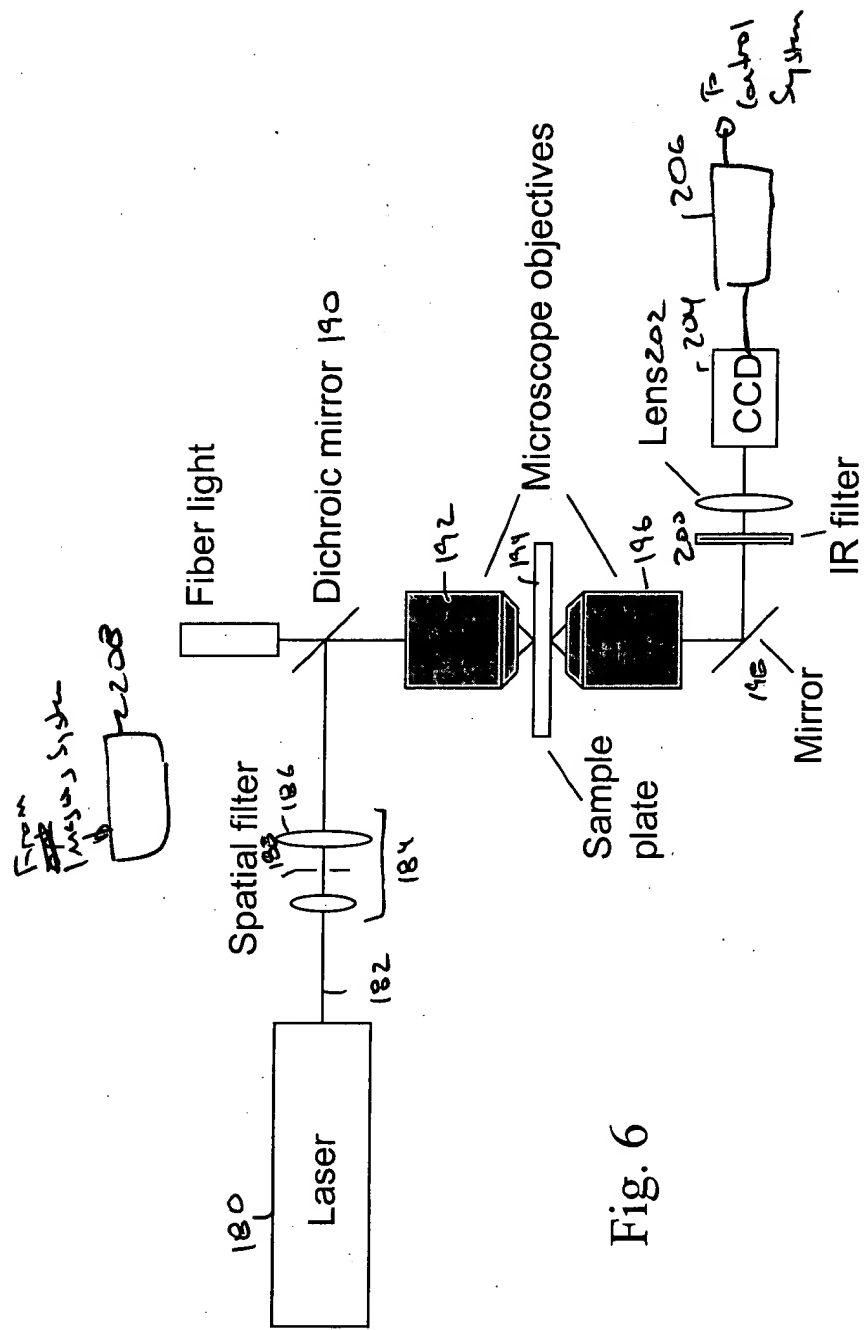


Fig. 5





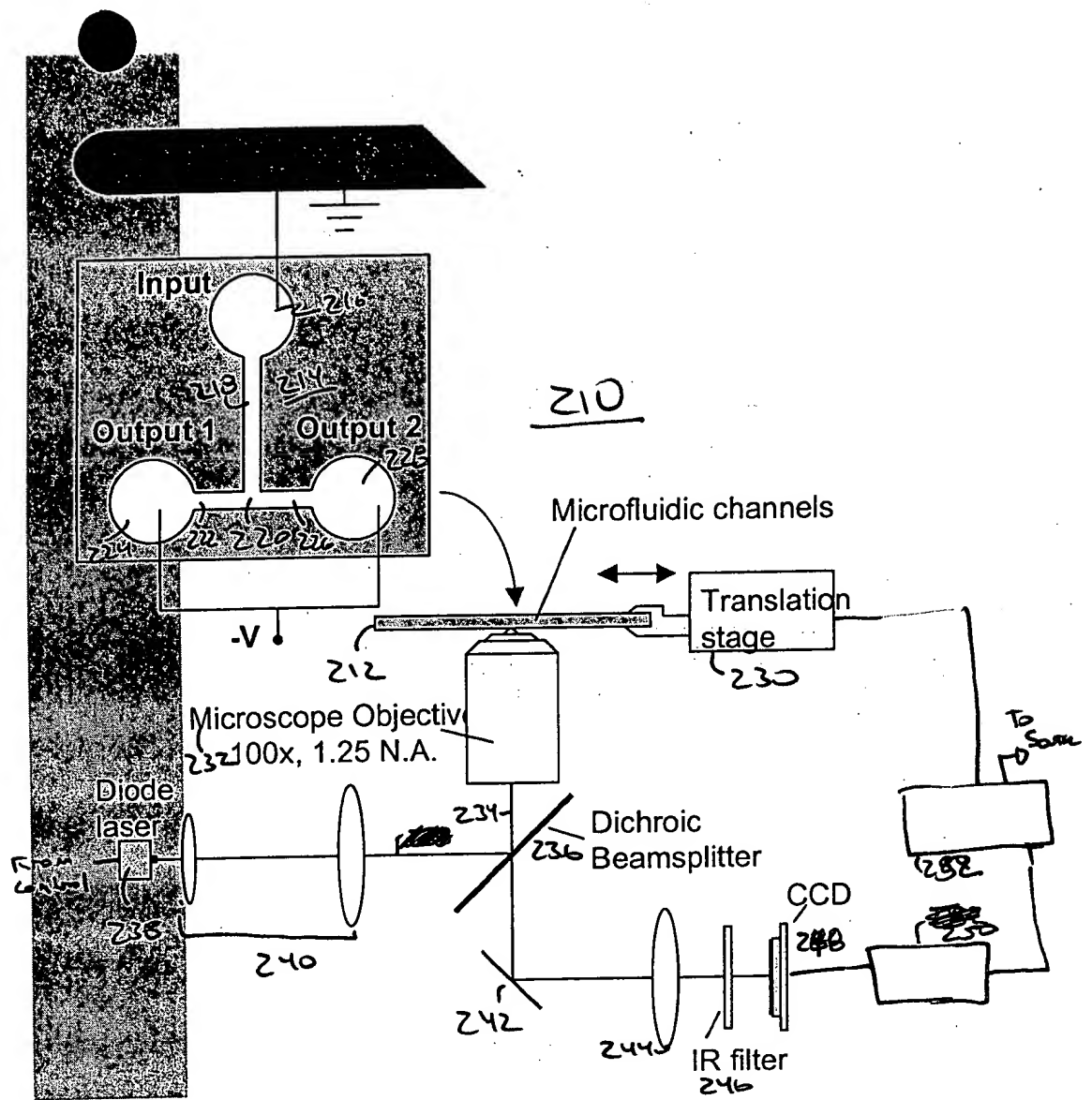


Fig. 7

FIG. 8 is a schematic diagram of a scanning system. A beam of light 262 enters from the left and is reflected by a polygonal mirror 272. The mirror is mounted on a rotating shaft 270. The reflected beam passes through a lens 274 and is focused onto a target surface 260. The target surface is divided into a scan area 260. The system is controlled by a galvanometer or resonant scanner 264.

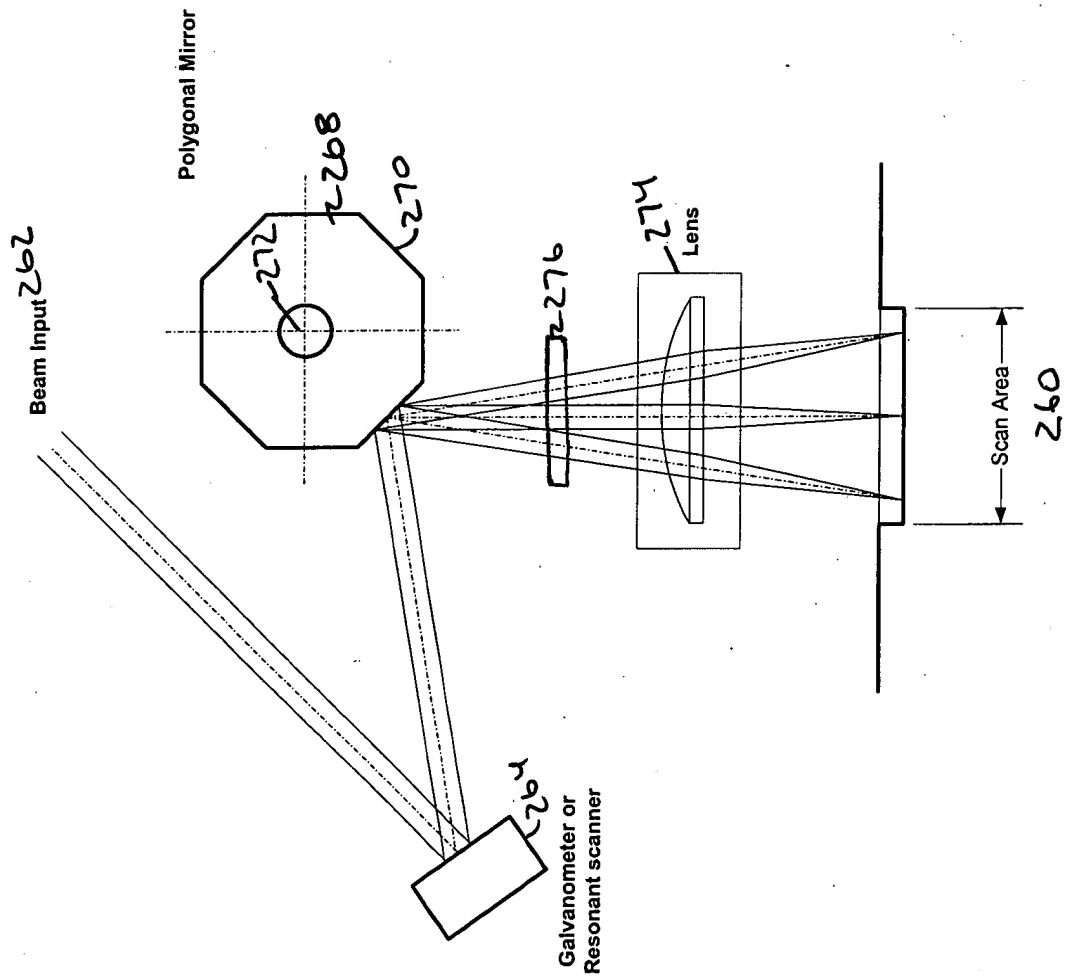


Fig. 8

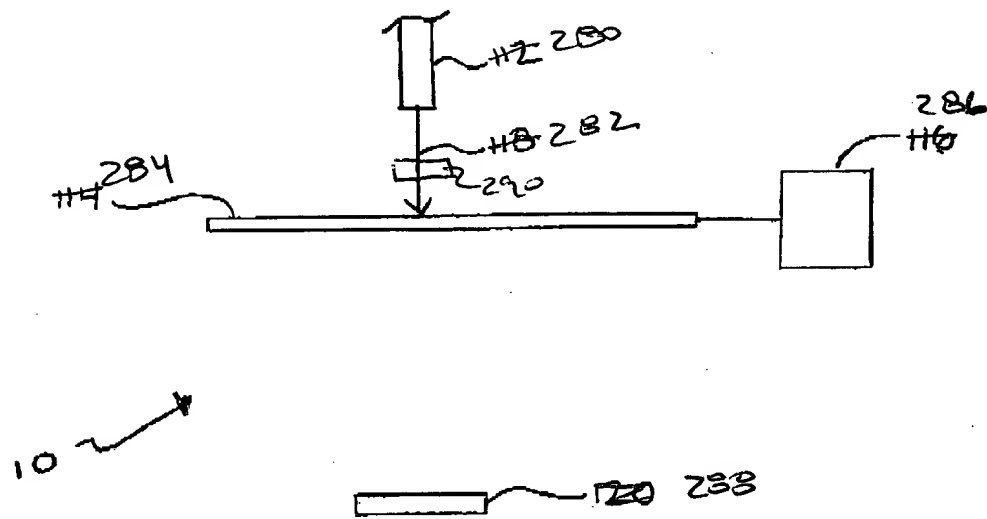


Fig. 9A

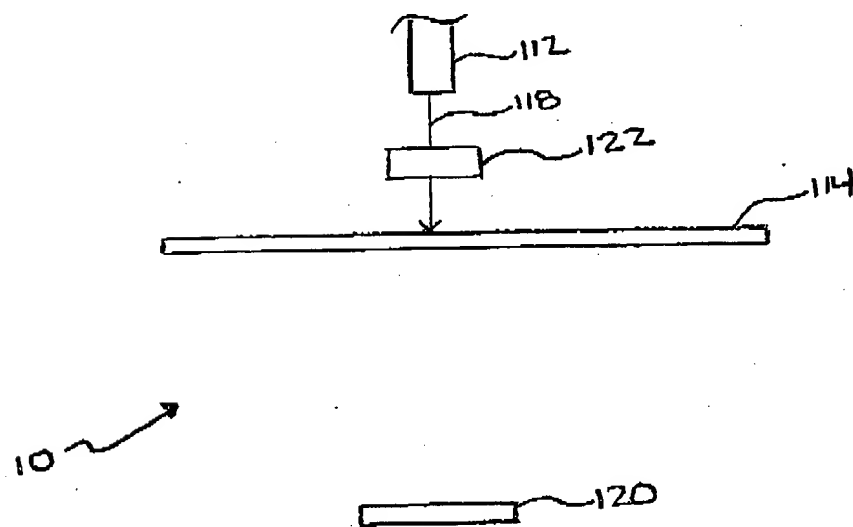


Fig. 9B

FIG. 11A

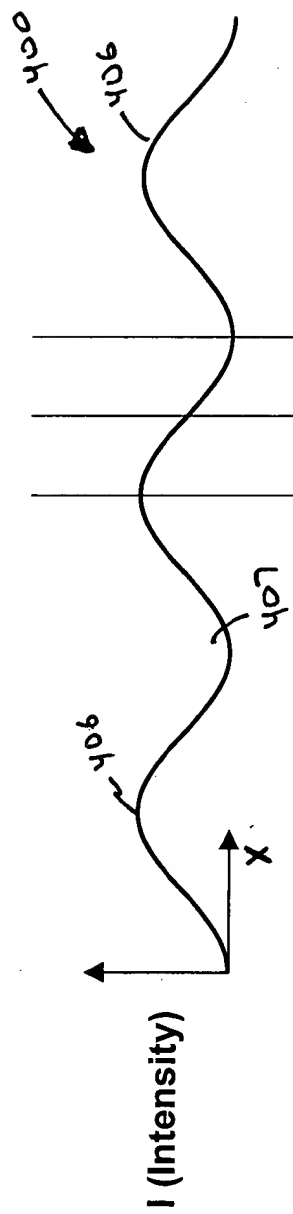


Fig. 11A

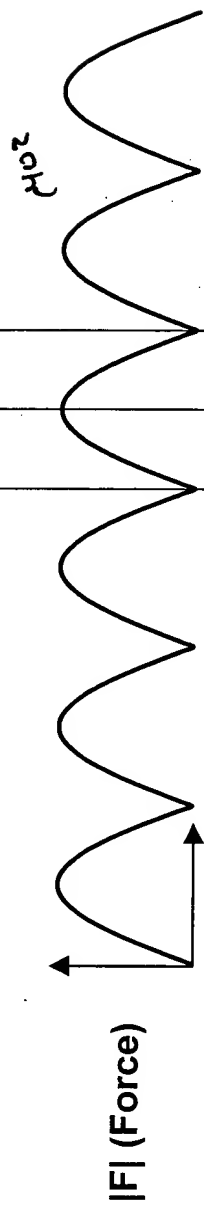


Fig. 11B

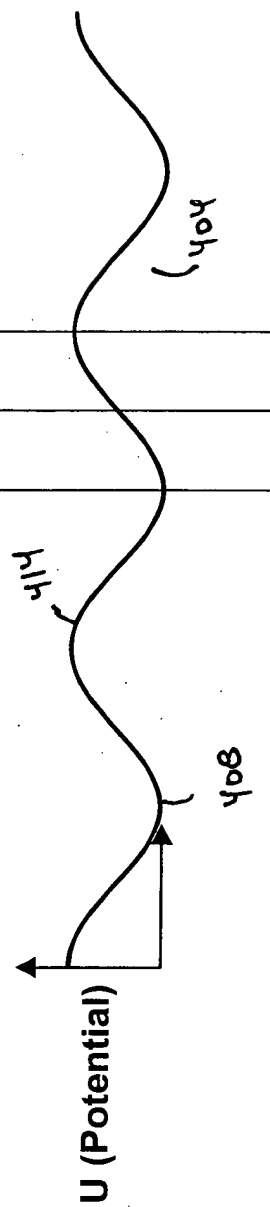


Fig. 11C

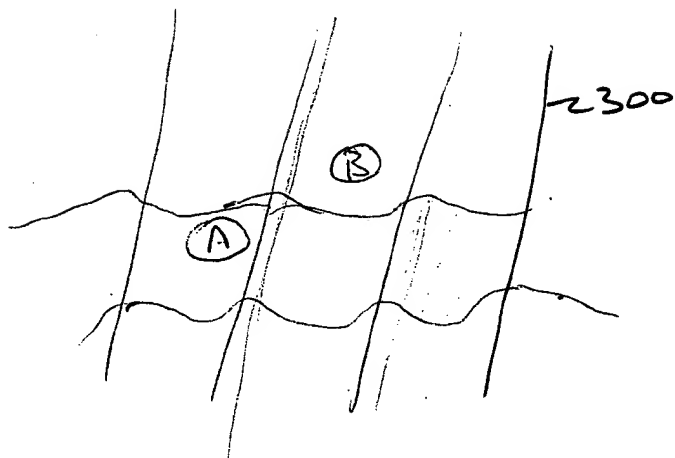


Fig. 12A

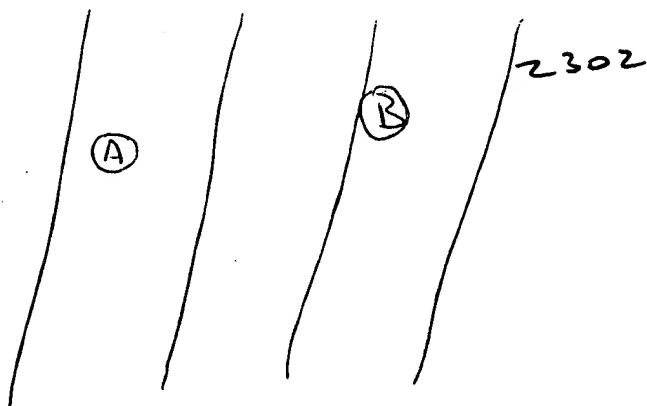


Fig. 12B

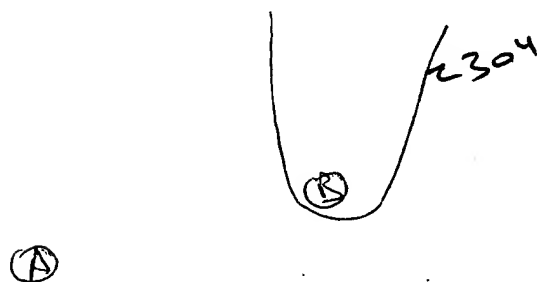
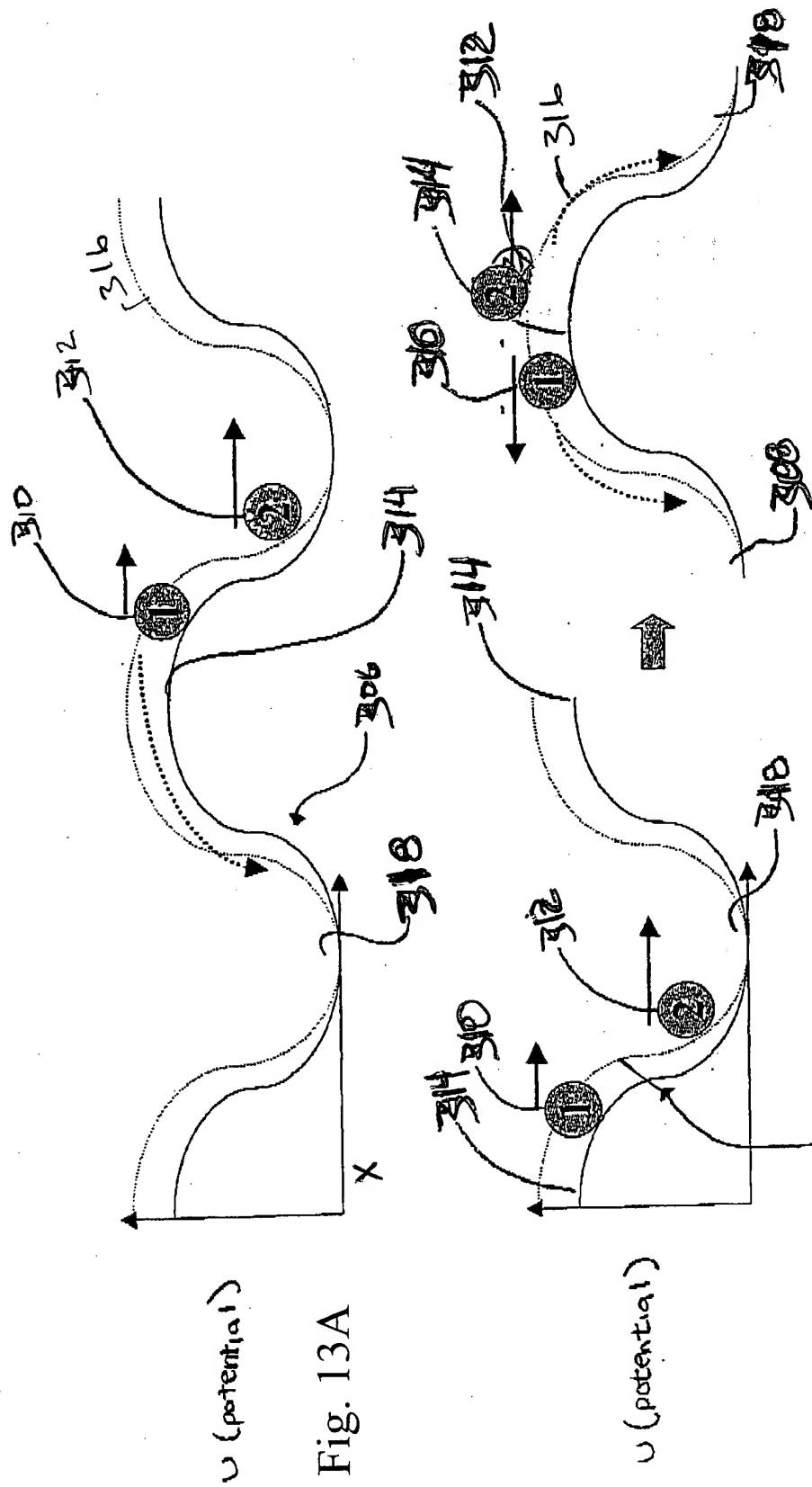


Fig. 12C



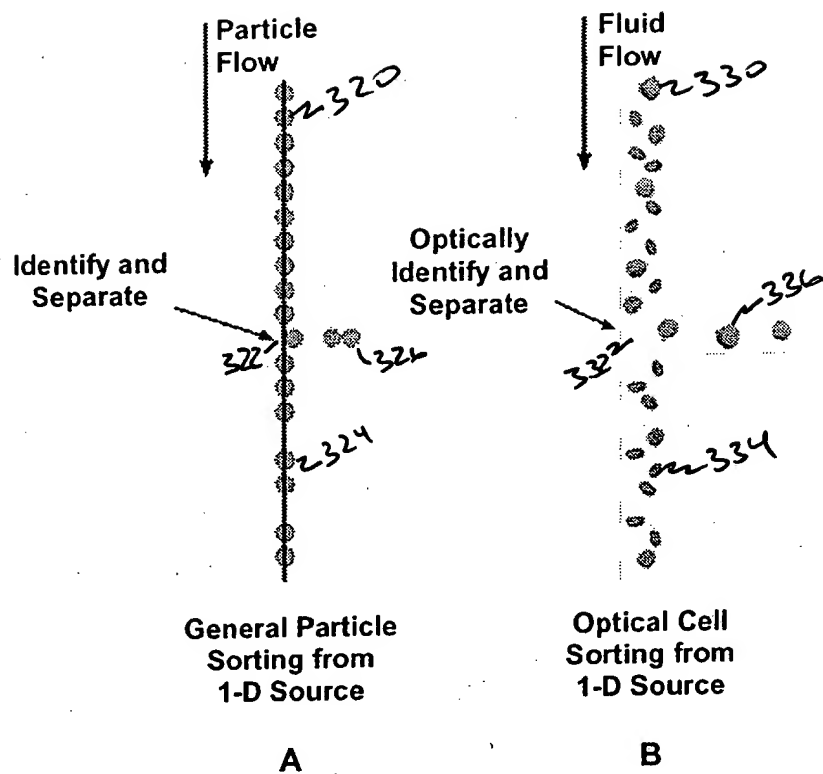


Fig. 14A

Fig. 14B

Sorting in a T-channel

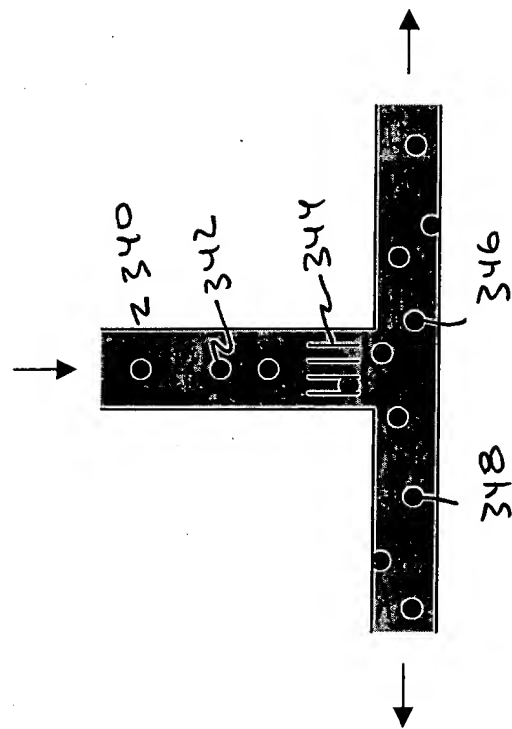


Fig. 15

Sorting in an H-channel

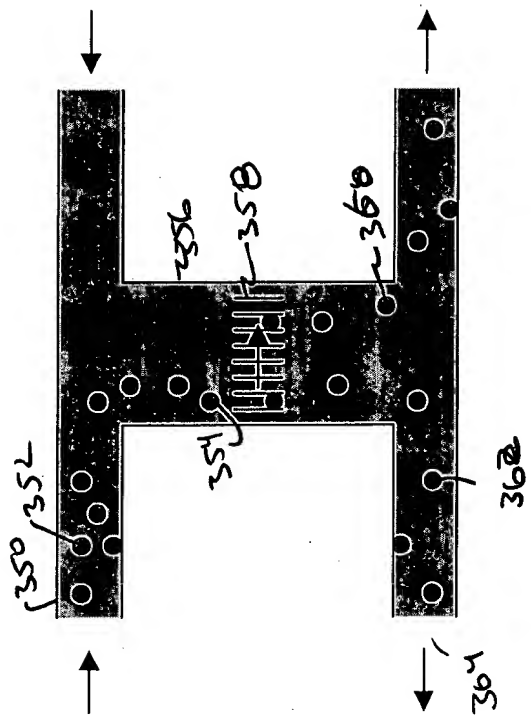


Fig. 16

Y-Channel

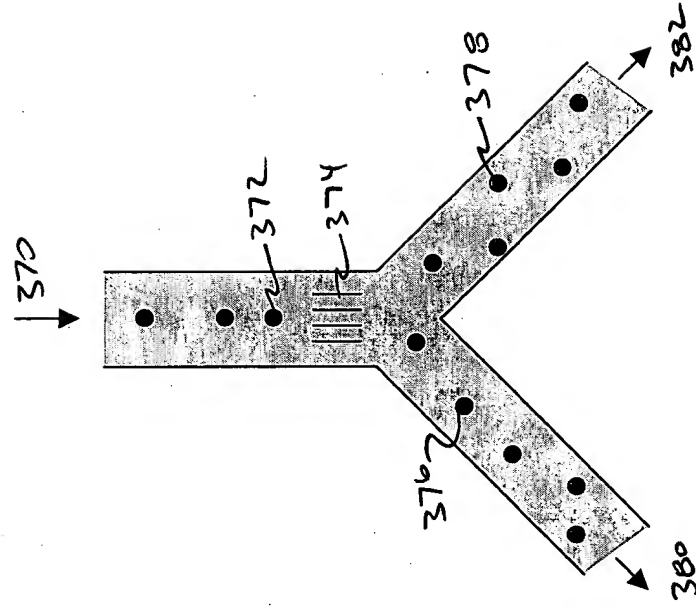


Fig. 17

X-Channel

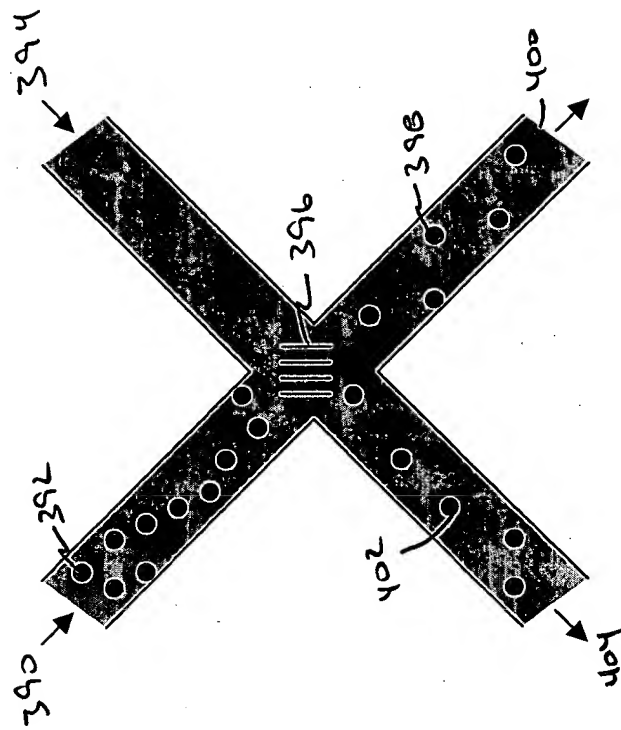


Fig. 18

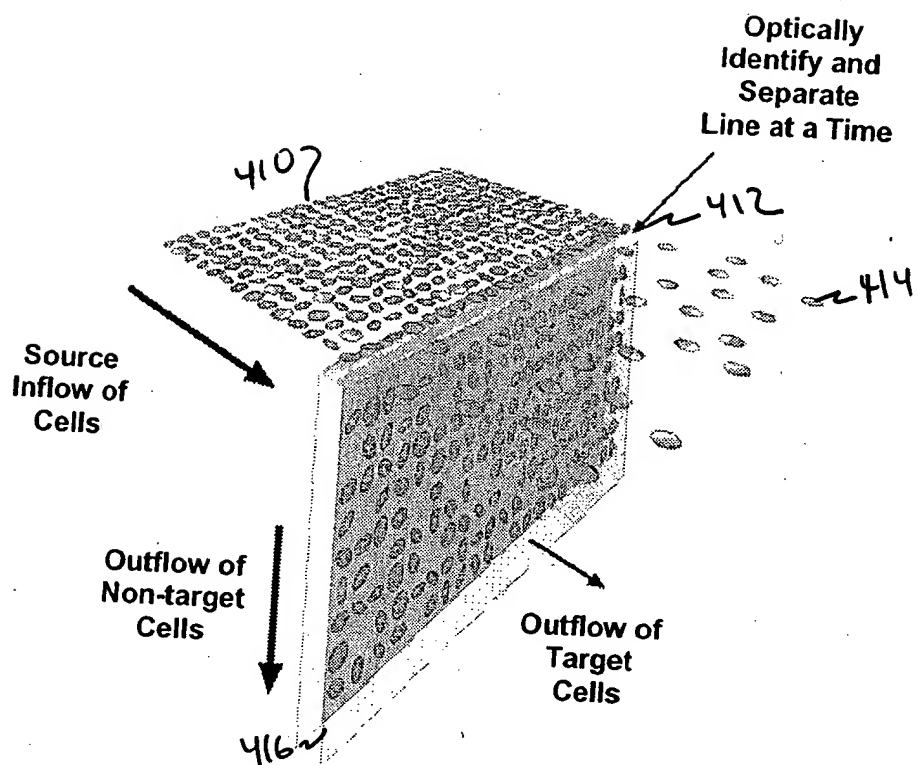


Fig. 19

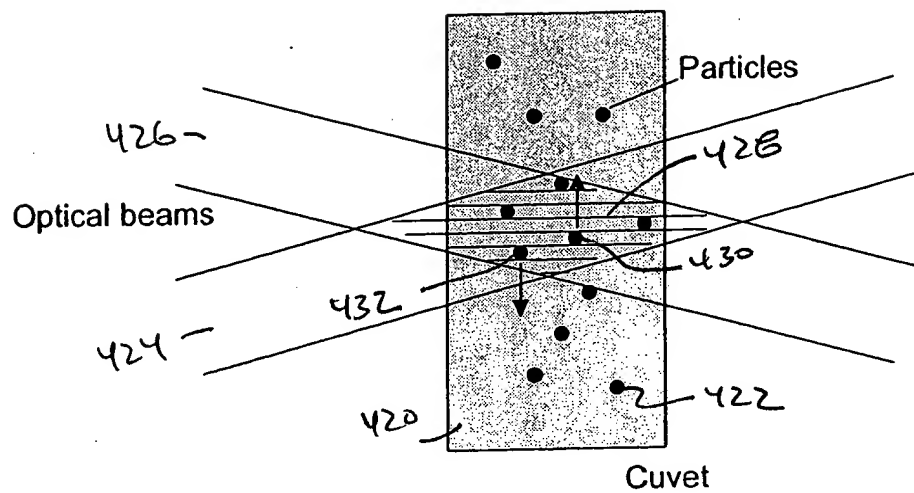


Fig. 20

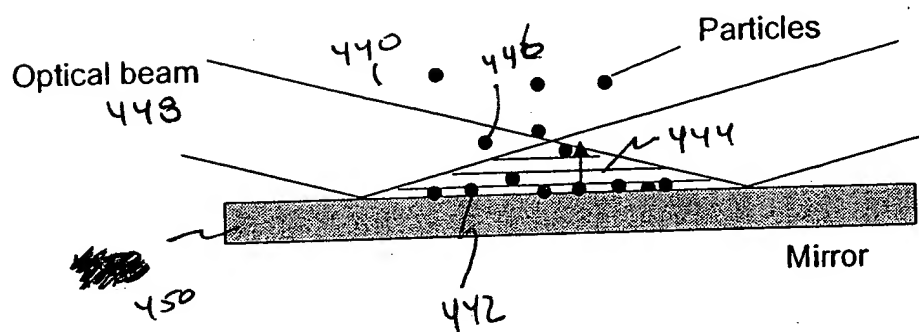


Fig. 21

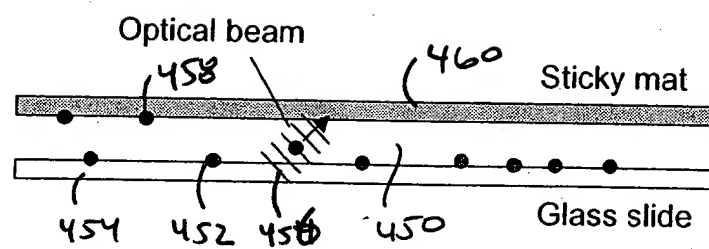
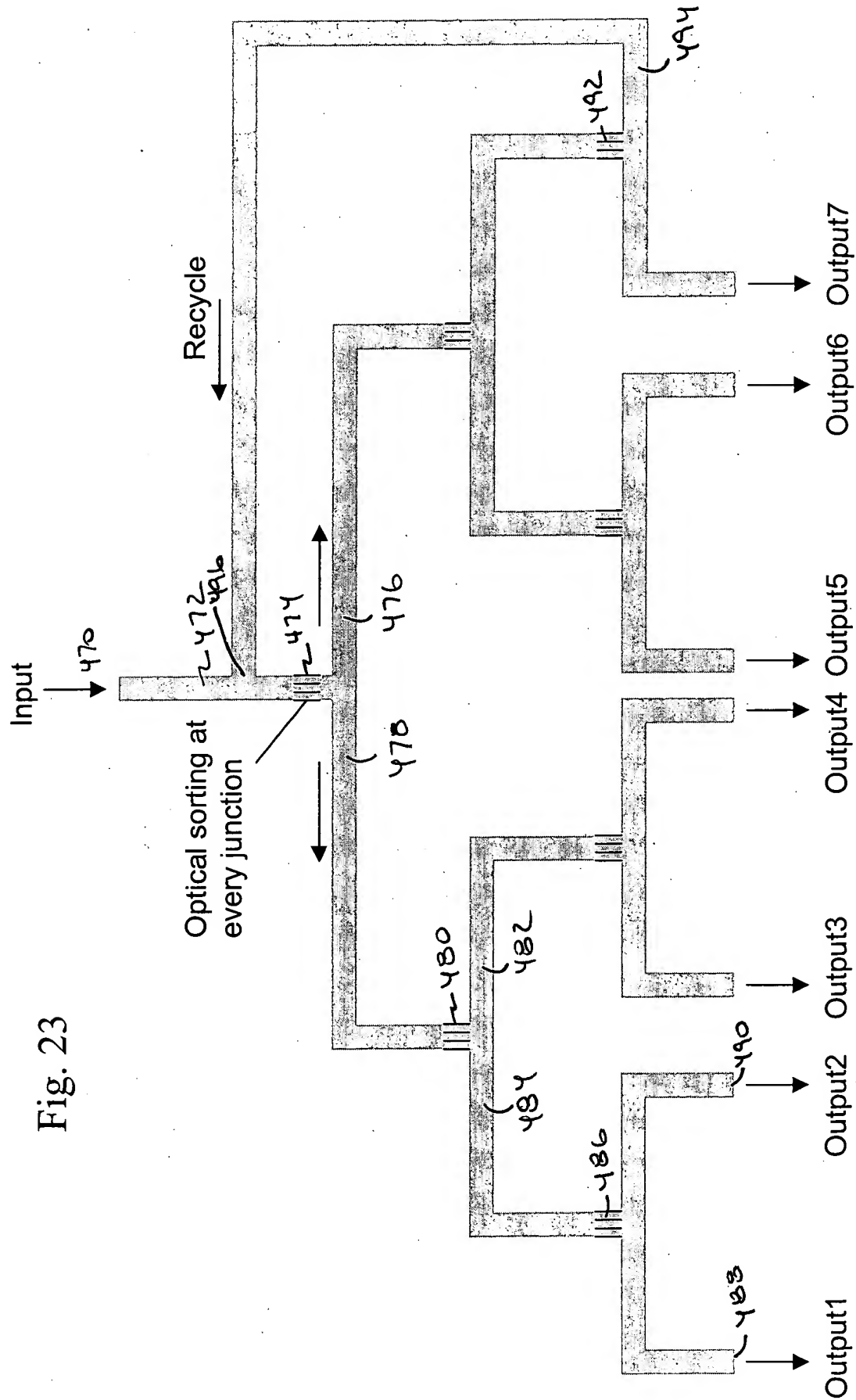


Fig. 22



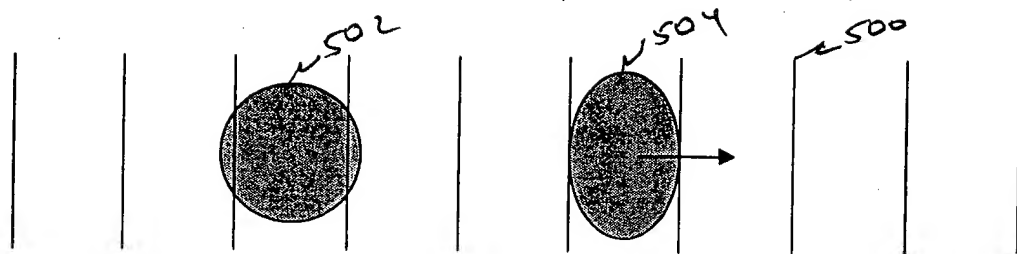


Fig. 24

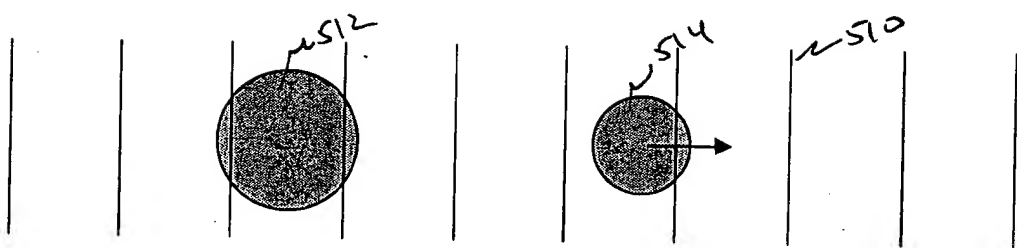
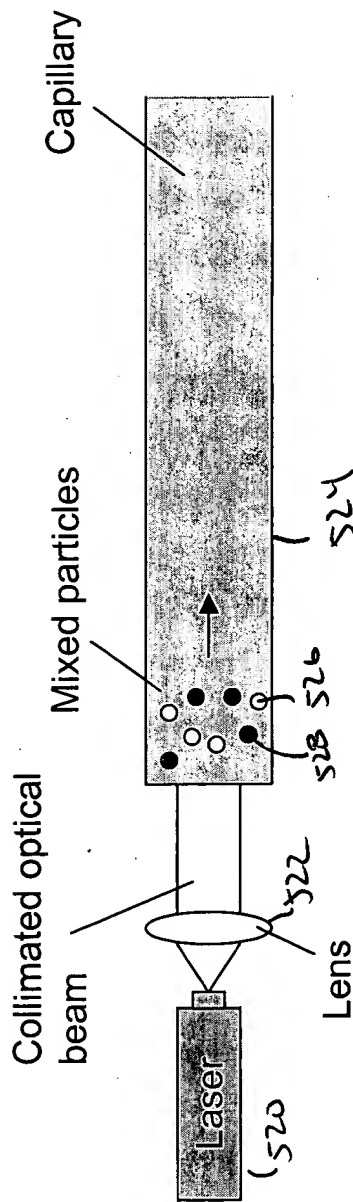


Fig. 25

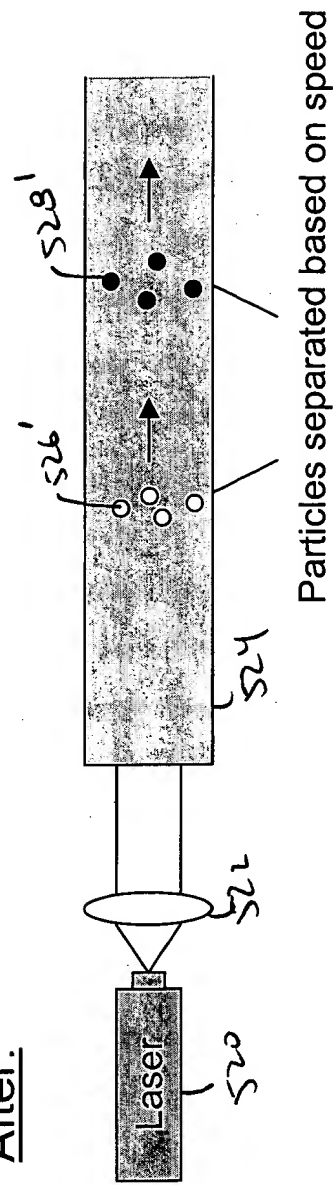
Scatter Force Separation

Fig. 26

Before:



After:



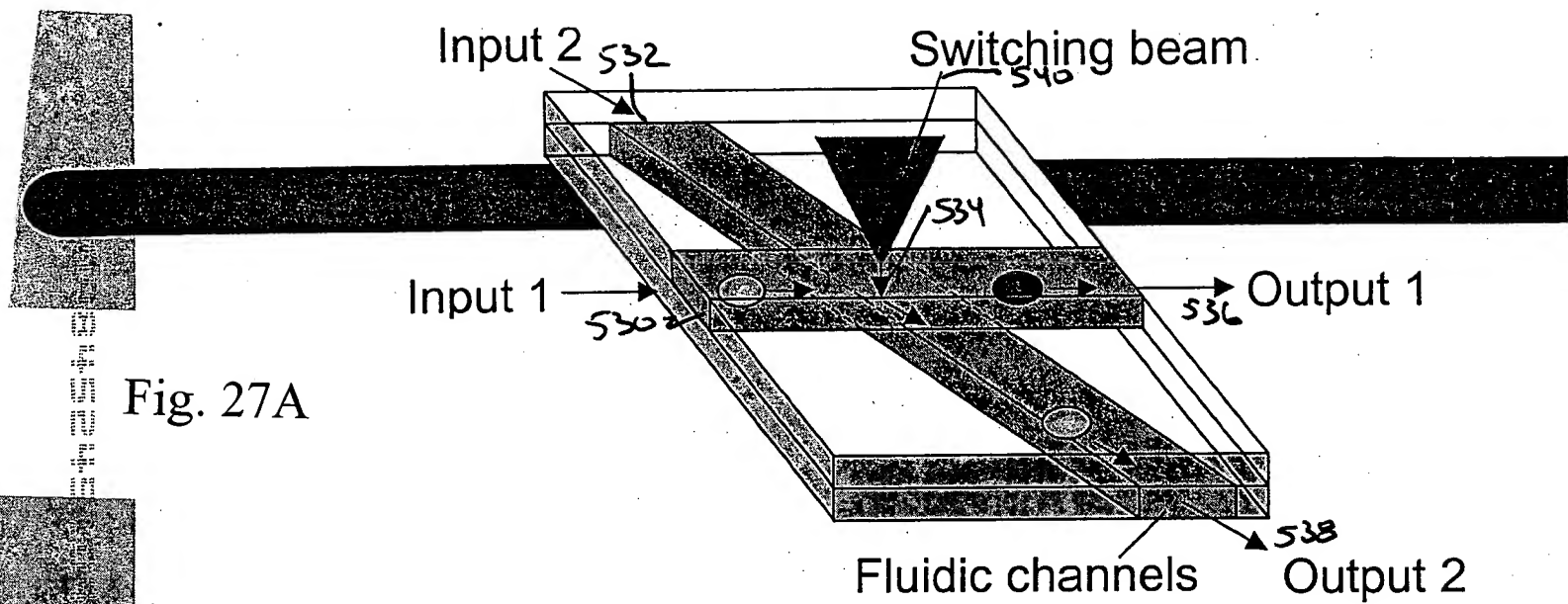


Fig. 27A

View from the side:

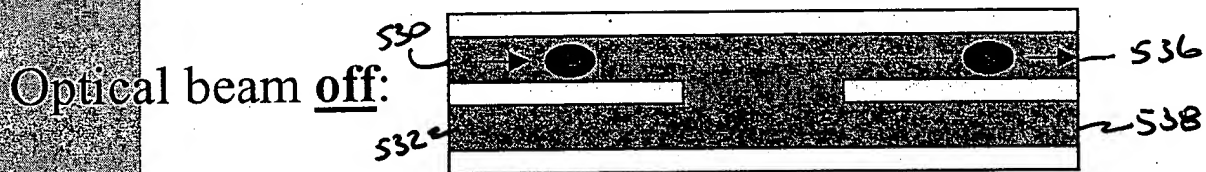


Fig. 27B

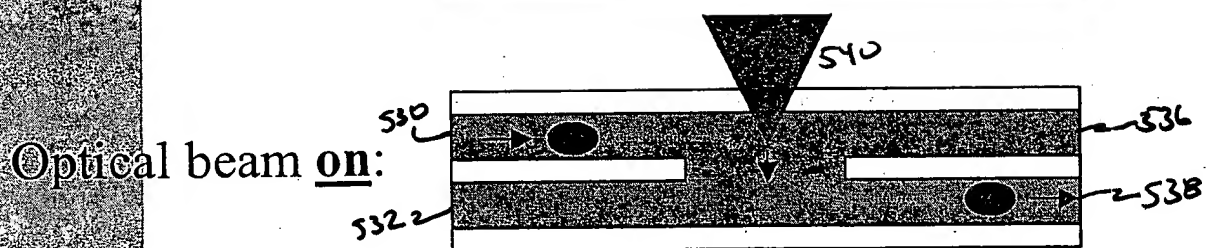


Fig. 27C

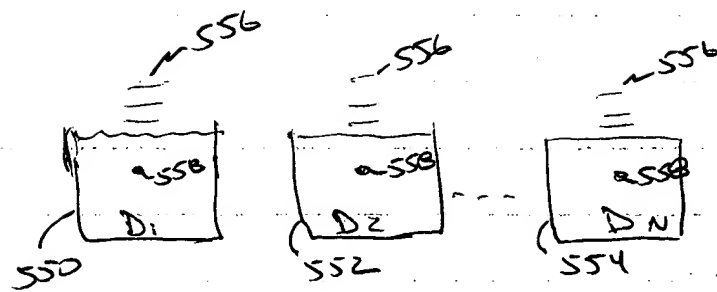


Fig. 28

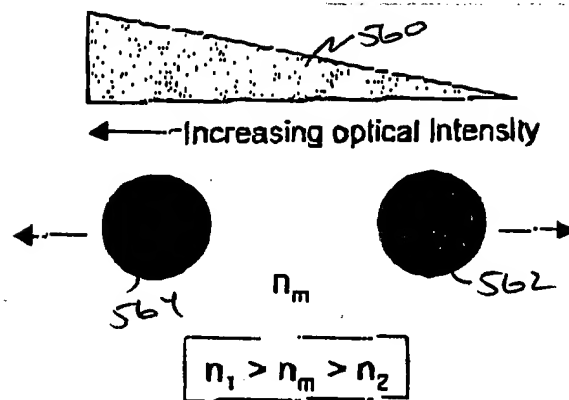


Fig. 29

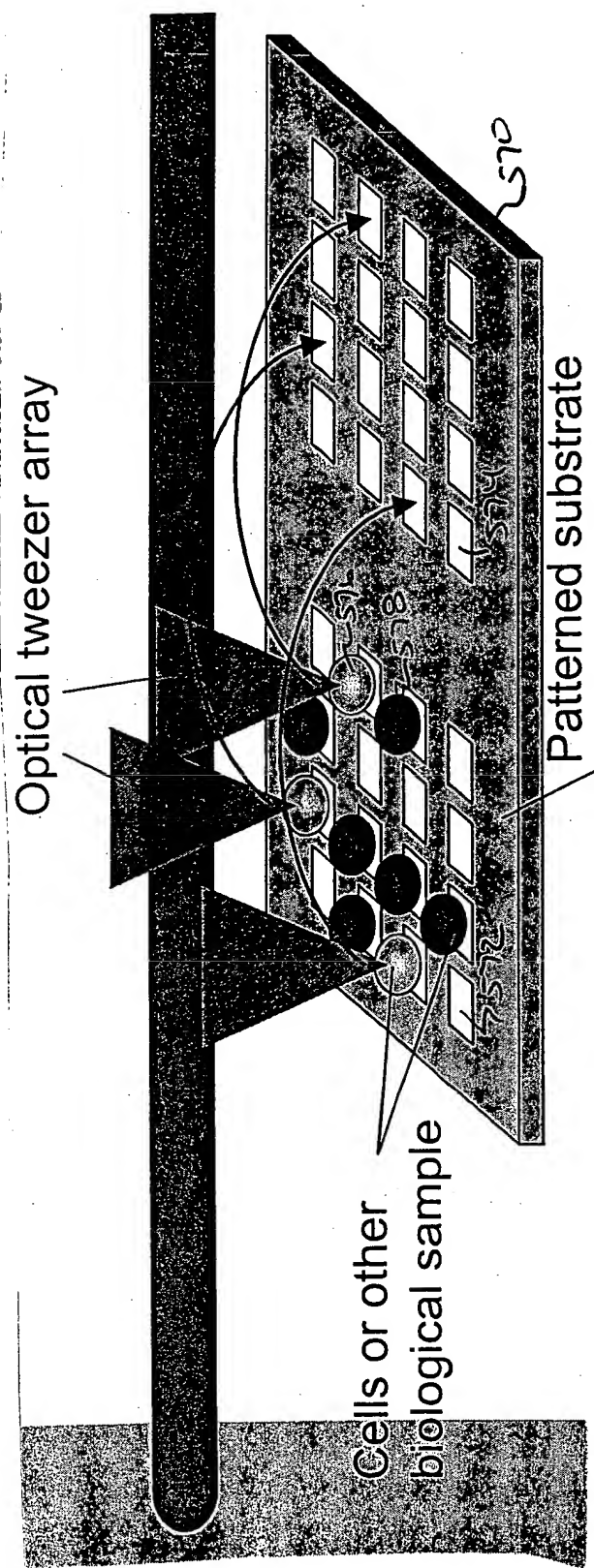


Fig. 30

Hemoglobin-O₂ Absorption Spectrum

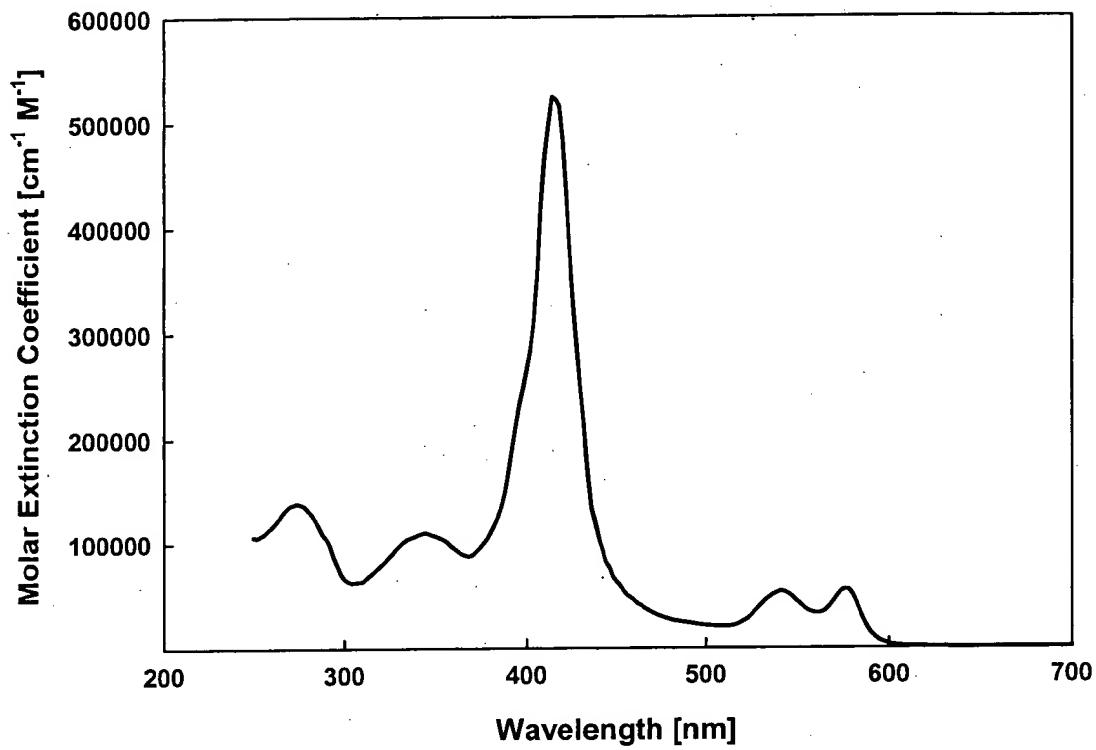


Fig. 31

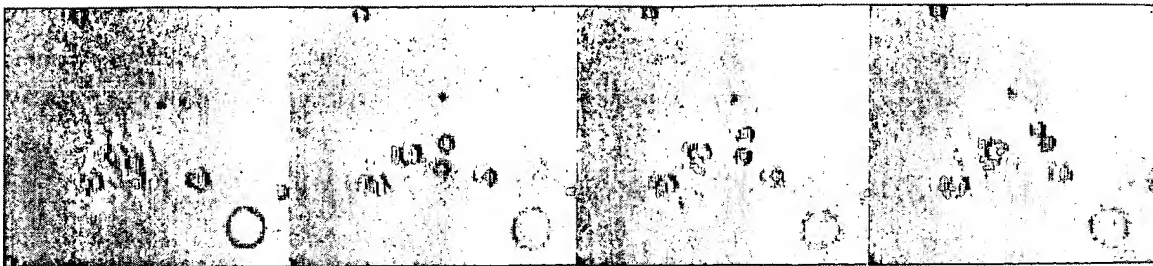


Fig. 32

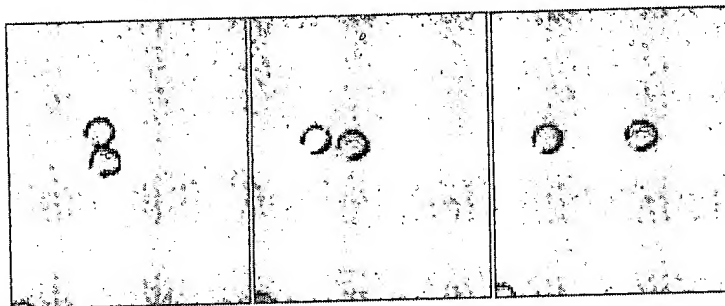


Fig. 33



Before

After

Difference

Fig. 34

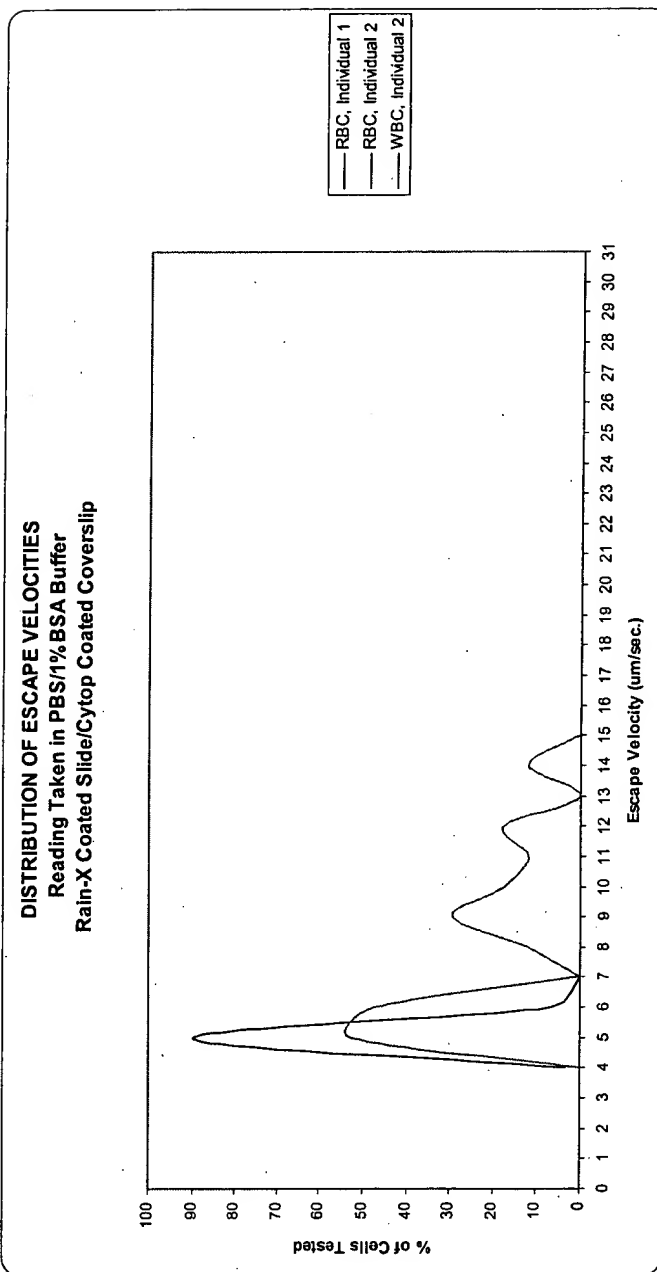


Fig. 35

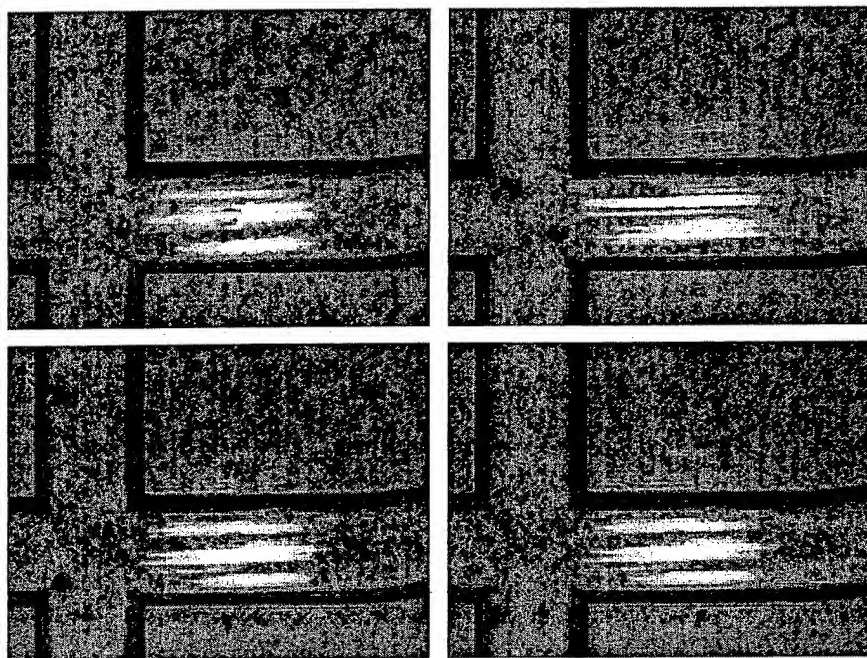


Fig. 36